

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

**TRANSLATION**

PCT

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

Date of mailing  
(day/month/year)

Applicant's or agent's file reference

**FA06-449PCT**

**FOR FURTHER ACTION**

See paragraph 2 below

International application No.

**PCT/JP2006/301293**

International filing date (day/month/year)

**27.01.2006**

Priority date (day/month/year)

**31.01.2005**

International Patent Classification (IPC) or both national classification and IPC

Applicant

**JAPAN SCIENCE AND TECHNOLOGY AGENCY**

**1. This opinion contains indications relating to the following items:**

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

**2. FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

**3. For further details, see notes to Form PCT/ISA/220.**

Name and mailing address of the ISA/JP	Date of completion of this opinion	Authorized officer
Facsimile No.		Telephone No.

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2006/301293

Box No. 1

Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of:



the international application in the language in which it was filed



the translation of the international application into \_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (Rule 12.3(a) and 23.1(b)).

2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material



a sequence listing



table(s) related to the sequence listing

b. format of material



on paper



in electronic form

c. time of filing/furnishing



contained in the international application as filed



filed together with the international application in electronic form



furnished subsequently to this Authority for the purposes of search

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/JP2006/301293

<b>Box No. V</b>	<b>Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</b>		
1. Statement			
Novelty (N)	Claims	1-5	YES
	Claims	_____	NO
Inventive step (IS)	Claims	1-5	YES
	Claims	_____	NO
Industrial applicability (IA)	Claims	1-5	YES
	Claims	_____	NO
2. Citations and explanations:			
<p>Document 1: S. ISHIIKAWA et al., J. Am. Chem. Soc., 2004, Vol. 126, No. 39, pages 12236 and 12237</p> <p>Document 2: K. MANABE et al., Tetrahedron, 2003, Vol. 59, pages 10439-10444</p> <p>Document 3: JP, 2001-252570, A (Japan Science and Technology Corp.), 18 September, 2001 (18.09.01)</p> <p>The documents shown above were cited in the ISR.</p> <p>The subject matters of claims 1-5 appear to be novel and to involve an inventive step in view of documents 1-3.</p> <p>Documents 1-3 describe neither the manufacturing method of optically-active hydroxymethylated compounds, wherein a silicon enolate is reacted with formaldehyde in either an aqueous solution or a mixed solvent of water and an organic solvent in the presence of a catalyst obtained by mixing a ligand consisting of a chiral bipyridine or an antipode thereof with a Lewis acid represented as BiY<sub>3</sub> (where, Y is a halogen atom, OAc, OCOCF<sub>3</sub>, ClO<sub>4</sub>, SbF<sub>6</sub>, PF<sub>6</sub> or OSO<sub>2</sub>CF<sub>3</sub>), nor the above-mentioned catalyst itself.</p>			